REMARKS

The examiner has not acknowledged receipt of the "Letter To The Official Draftsman" filed on January 17, 2002. In the event that the "Letter" has been misplaced in the Office, a replacement copy is enclosed. Approval of the proposed drawing corrections is requested.

Claims 17-35 remain in the application. Claims 1-16 were previously canceled.

Reconsideration of the rejection of claims 17-19, 21 and 22 under 35 U.S.C. 103(a) as unpatentable over Swanson in view of Stumpf is respectfully requested.

Swanson teaches a liquid cooled fuel pump and vapor separator unit 20 having a high pressure pump 54. The unit 20 includes upper and lower casings 40 and 42 forming a sump 70 and a cylindrical cavity bore 68 in which pump 54 is mounted. The cavity bore 68 is surrounded by cooling chambers 160 and 162. A standard diaphragm operated fuel pump (not shown) is mounted on engine 26 and is operably coupled between tank 24 and line 28 to pump tank fuel under low pressure (e.g., 3-8 psi) via line 28 to the inlet of unit 20. Col. 3, ll. 45-49. Liquid fuel is supplied to fuel sump 70 of unit 20 via tank feed line 28 which is coupled at its outlet end to a hose nipple 90 (FIGS. 4 and 4A) of an inlet fitting 91 threadably mounted in an interior boss 92 of upper casing 40. Fuel is admitted to sump 70 under the control of an inlet needle valve 94 operated through a lever arm 96 pivoted by a pin 98 on the lower end of boss 92 (FIG. 4A). Lever arm 96 is fixed at its pin-remote end to a kidney-shaped float 100 which maintains needle valve 94

closed when the fuel level 102 reaches the elevation shown in FIGS. 3, 4, 8 and 12. As fuel is withdrawn from the lower reaches of sump 70 via a casing interior cross passage 104 (FIG. 3) **by pump suction** to the inlet fitting 105 of pump 54, float 100 will drop accordingly to allow needle valve 94 to open to replenish fuel to sump 70 to maintain the fuel level 102 generally at the elevation illustrated in FIG. 3. Col 4., ll. 36-51. After passing through the inlet needle valve 94, the liquid fuel resides within the float reservoir 70 at atmospheric pressure or slightly thereabove. Col. 6, ll. 44-47.

It is important to note that Swanson teaches the use of a "commercially available in-tank fuel pump" as the pump 54, such as disclosed in U.S. Patent Nos. 4,697,995 and 5,257,916.[1] See col. 3, l. 62 through col. 4, l. 4. The pumps disclosed in these patents are submersible, self-priming pumps requiring no pilot pressure for proper operation of the pumps.

Stumpf teaches an apparatus for reducing or eliminating the occurrence of vapor lock in two-cycle engines. In one embodiment (Fig. 1), the fuel pump 16 is placed in the airflow produced by a fan 15 on the flywheel 14. The fuel pump is physically spaced from the engine and mounted using a mount 20 comprised of low heat conductivity or heat insulating materials which further prevent heat migration. In a further embodiment (Fig. 4), the fuel pump 31 is mounted in the fuel tank 21 and liquid fuel acts as the cooling means.

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[1] Swanson's reference to U.S. Patent No. 5,257,216 appears to be a typographical error. The correct patent appears to be U.S. Patent No. 5,257,916.

The examiner cites Swanson for its teaching of "using coolant or air driven by a pressure source to cool a high-pressure pump to avoid excessive vaporization of fuel." In applying Stumpf, the examiner states that "Stumpf teaches that to avoid vaporization problems a fuel pump needs to be cooled below a particular vaporization temperature." The examiner then concludes that "[i]t would have been obvious to keep the pump of Swanson below some critical temperature because both Stumpf and Swanson were tying to solve the same problem."

Rejected claim 17 is directed to a fuel delivery system for an internal combustion engine comprising:

a fuel feed pump, which delivers fuel which is at **pilot pressure** to a high-pressure fuel pump that communicates on the high-pressure side with at least one injection valve, in order to deliver fuel at high pressure to the injection valve or valves, and

means for delivering a coolant medium flow to the high- pressure fuel pump via at least one coolant conduit, in order to keep the temperature (T_{HDP}) of the high-pressure fuel pump below a critical operating temperature (T_{k1}).

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Neither Swanson nor Stumpf teaches or suggests a

fuel delivery system for an internal combustion engine of the type recited in claim 17 in which a fuel feed pump delivers fuel at **pilot pressure** to a high-pressure fuel pump.

The only reference which teaches or suggests the use of a fuel feed pump for supplying fuel to a high-pressure pump is Swanson. However, in Swanson, the feed pump, which is not illustrated, simply transfers fuel from tank 24 to sump 70, where the fuel is stored at "atmospheric pressure or slightly thereabove." In other words, the sump 70 is a second fuel storage tank. The feed pump in Swanson does not deliver fuel at pilot pressure to the high-pressure pump 54. Indeed, the fuel in sump 70 is not required to be at a pilot pressure or a pressure any higher than atmospheric pressure because the pump 54 is a self-priming, suction pump. Accordingly, claim 17 and claims 18,19, 21 and 22, dependent on claim 17, are not rendered obvious by the combined teachings of Swanson and Stumpf.

Reconsideration of the rejection of claims 25-27 under 35 U.S.C. 103(a) as unpatentable over Swanson in view of Stumpf in combination with Rembold is also respectfully requested.

Rembold et al teaches a fuel system having a first fuel pump 6 driven by an electric motor and a second engine driven pump 12. The fuel pressure delivered by the low-pressure pump 6 to the low-pressure side 12n of the high-pressure pump 12 can be controlled by pressure regulating valves 26 and 28. A system of non-return valves 12a, 12b, 40a enables the second pump to be by-passed when starting the engine.

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a prima facie case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from knowledge generally available to one of ordinary skill the art and not from the applicant's disclosure. See, for example, Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1052 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). The mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Suggestion arising from the applicant's disclosure is impermissible as the basis for a rejection. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). It is also well established that the mere existence of individual features in the prior art is not in itself sufficient basis to render a claimed invention obvious under 35 U.S.C. 103. Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 220 USPQ 193,199 (Fed. Cir. 1983).

The examiner opines that "[i]t would have been obvious to use the regulation system of Rembold in Swanson because this was a known way to vary the output of

the high-pressure pump." However, Swanson's pump 54 is a submersible, self-priming suction pump which draws fuel at atmospheric pressure out of sump 70. The high-pressure pump 12 in Rembold is clearly a different type of pump than the pump disclosed in Swanson and the fuel delivery systems disclosed by Swanson and Rembold are clearly different in operation and structure. Where is the teaching in either Rembold or Swanson that the output of the high-pressure pump 54 in Swanson's fuel deliver system could be varied by adjusting the fuel pressure in the tank or sump 70 or that the pressure in sump 70 could be adjusted by including pressure regulating valves similar to valves 26 and 28 of Rembold in the supply line 28 of Swanson? There simply is none. The only suggestion of doing so is found in the applicants' own disclosure. As pointed out above, the use of an applicant's own disclosure to provide the motivation for combining the individual features disclosed in the prior art is improper.

It is noted that the Office action is incomplete in that no ground of rejection or indication of allowable subject matter is set forth in the Office action with respect to claims 29-32. Also, claim 30 is dependent on claim 28, which the examiner identified as containing allowable subject matter. Accordingly, it is understood that claims 29-32 have been determined to contain allowable subject matter. If this understanding is incorrect, the examiner is requested to provide the reasons for rejection in writing as required by Office procedure and to refrain from making the next Office action final, since claim 29-32 have not been previously rejected.

Entry of the amendment and allowance of the claims are courteously solicited.

Respectfully submitted,

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